

CLINOPYROXENE COMPOSITIONS OF THE GABBRO FROM THE NAGA OPHIOLITE BELT: NEW EVIDENCE ON SUPRA- SUBDUCTION ZONE TYPE MAGMA GENESIS

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Abstract

The Naga Ophiolite Belt (NOB) occurring along the Indo-Myanmar border forms part of the Naga-Arakan Yoma flysch trough of Upper Cretaceous to Middle Eocene age. The Ophiolite belt comprises mainly of mafic volcanics, mafic (gabbros) and ultramafic cumulates (peridotite, pyroxenites), serpentinites, plagiogranites and volcanogenic sediments.

Petrographic studies show that the gabbros are composed essentially of plagioclase feldspar, Clinopyroxene(Cpx) with subordinate amount of olivine, hornblende, epidote and opaques as accessories.

The low-Ti and high-Mg content of Cpx suggest that the NOB gabbro may have formed by wet partial melting of an already depleted oceanic lithosphere in a supra-subduction zone environment. The geochemical characteristics of the NOB gabbro have similarities with those of the other supra-subduction zone-type Eastern Mediterranean ophiolites (e.g., Troodos, Pindos and Oman ophiolites) with island-arc affinity.

Keywords: Clinopyroxene, Gabbro, Chemistry, Naga Ophiolite Belt.

